

10/524,331

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	247	(556/51).CCLS.	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2006/03/05 18:13
L2	786	(546/2).CCLS.	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2006/03/05 18:24
L3	1346	(502/155).CCLS.	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2006/03/05 18:39
L4	1346	(502/162).CCLS.	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2006/03/05 18:39

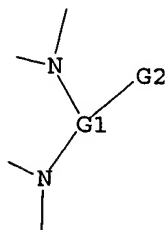
10/524,334

(FILE 'HOME' ENTERED AT 17:07:21 ON 05 MAR 2006)

FILE 'REGISTRY' ENTERED AT 17:07:30 ON 05 MAR 2006

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1 Hf,Ti,Zr

G2 H,Cl,Br,F,I

Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 17:07:52 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 211 TO ITERATE

100.0% PROCESSED 211 ITERATIONS 5 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 3349 TO 5091
PROJECTED ANSWERS: 5 TO 234

L2 5 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 17:07:59 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 4642 TO ITERATE

100.0% PROCESSED 4642 ITERATIONS 136 ANSWERS
SEARCH TIME: 00.00.01

L3 136 SEA SSS FUL L1

=> fil caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 166.94 167.15

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FILE LAST UPDATED: 3 Mar 2006 (20060303/ED)

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=> s l3/prep

216 L3

3432716 PREP/RL

L4 61 L3/PREP

(L3 (L) PREP/RL)

=> s l4 and py<=2002

22791134 PY<=2002

L5 49 L4 AND PY<=2002

=> d 1-49 bib abs

L5 ANSWER 1 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:494772 CAPLUS

DN 137:209929

TI Synthesis and Structures of Zirconium Amide-Iodide Complexes

AU Lehn, Jean-Sebastien M.; Hoffman, David M.

CS Department of Chemistry, University of Houston, Houston, TX, 77204-5003,
USA

SO Inorganic Chemistry (2002), 41(15), 4063-4067

CODEN: INOCAJ; ISSN: 0020-1669

PB American Chemical Society

DT Journal

LA English

OS CASREACT 137:209929

AB Zr amide-iodide complexes were synthesized for possible use as CVD precursors to Zr nitride films. Six complexes $Zr(NR_2)_4 \cdot nIn$ ($R = Me$ or Et ; $n = 1-3$) were prepared by reacting ZrI_4 and $Zr(NR_2)_4$ in hot toluene. x-ray crystallog. analyses were performed for $Zr(NMe_2)_3I$, $Zr(NEt_2)_2I_2$, and $Zr(NEt_2)I_3$. In the solid state, $Zr(NMe_2)_3I$ and $Zr(NEt_2)_2I_2$ are the discrete dimers $[Zr(NMe_2)_2I(\mu-NMe_2)]_2$ and $[Zr(NEt_2)_2I(\mu-I)]_2$, and $Zr(NEt_2)I_3$ is the polymer of dimers $\{[Zr(NEt_2)_2I_2(\mu-I)]_2\}_n$. In solution, $Zr(NEt_2)_3I$ probably is monomeric from NMR data and a mol. weight determination. The complex $Zr(NEt_2)_3I$ is the most promising precursor candidate because of its phys. properties.

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:524158 CAPLUS

DN 135:266235

TI Reactions of Tetrakis(dimethylamide)-Titanium, -Zirconium and -Hafnium with Silanes: Synthesis of Unusual Amide Hydride Complexes and Mechanistic Studies of Titanium-Silicon-Nitride (Ti-Si-N) Formation

AU Liu, Xiaozhan; Wu, Zhongzhi; Cai, Hu; Yang, Yihui; Chen, Tianniu; Vallet, Catherine E.; Zuhre, Ray A.; Beach, David B.; Peng, Zhi-Hui; Wu, Yun-Dong; Concolino, Thomas E.; Rheingold, Arnold L.; Xue, Ziling

CS Department of Chemistry, University of Tennessee, Knoxville, TN, 37996,
USA

SO Journal of the American Chemical Society (2001), 123(33),

8011-8021

CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

OS CASREACT 135:266235

AB $M(NMe_2)_4$ ($M = Ti, Zr, Hf$) react with $H_2SiR'Ph$ ($R' = H, Me, Ph$) to yield H_2 , aminosilanes, and black solids. Unusual amide hydride complexes $[(Me_2N)_3M(\mu-H)(\mu-NMe_2)_2]_2M$ ($M = Zr, 1; Hf, 2$) are intermediates and

characterized by single-crystal x-ray diffraction. $[(\text{Me}_2\text{N})_3\text{M}(\mu\text{-D})(\mu\text{-NMe}_2)_2]_2\text{M}$ (1-d2, 2-d2) were prepared through reactions of $\text{M}(\text{NMe}_2)_4$ with D_2SiPh_2 . Reactions of $(\text{Me}_2\text{N})_3\text{ZrSi}(\text{SiMe}_3)_3$ (5) with $\text{H}_2\text{SiR}'\text{Ph}$ gave aminosilanes and $(\text{Me}_2\text{N})_2\text{Zr}(\text{H})\text{Si}(\text{SiMe}_3)_3$ (6). These reactions are reversible through unusual equilibrium such as $(\text{Me}_2\text{N})_3\text{ZrSi}(\text{SiMe}_3)_3$ (5) + H_2SiPh_2 \rightleftharpoons $(\text{Me}_2\text{N})_2\text{Zr}(\text{H})\text{Si}(\text{SiMe}_3)_3$ (6) + $\text{HSi}(\text{NMe}_2)\text{Ph}_2$. The deuteride ligand in $(\text{Me}_2\text{N})_2\text{Zr}(\text{D})\text{Si}(\text{SiMe}_3)_3$ (6-d1) undergoes H-D exchange with $\text{H}_2\text{SiR}'\text{Ph}$ ($\text{R}' = \text{Me}, \text{H}$) to give 6 and $\text{HDSiR}'\text{Ph}$. The reaction of $\text{Ti}(\text{NMe}_2)_4$ with SiH_4 in CVD at 450° yielded thin Ti-Si-N ternary films containing TiN and Si_3N_4 . $\text{Ti}(\text{NMe}_2)_4$ reacts with SiH_4 at 23° to give H_2 , $\text{HSi}(\text{NMe}_2)_3$, and a black solid. HNMe2 was not detected in this reaction. The reaction mixture, upon heating, gave TiN and Si_3N_4 powders. Analyses and reactivities of the black solid revealed that it contained -H and unreacted -NMe2 ligands but no Si-containing ligand. Ab initio quantum chemical calcs. of the reactions of $\text{Ti}(\text{NR}_2)_4$ ($\text{R} = \text{Me}, \text{H}$) with SiH_4 indicated that the formation of aminosilanes and $\text{HTi}(\text{NR}_2)_3$ was favored. These calcs. also showed that $\text{HTi}(\text{NH}_2)_3$ (3b) reacted with SiH_4 or $\text{H}_3\text{Si-NH}_2$ in the following step to give $\text{H}_2\text{Ti}(\text{NH}_2)_2$ (4b) and aminosilanes. The results in the current studies indicated that the role of SiH_4 in its reaction with $\text{Ti}(\text{NMe}_2)_4$ was mainly to remove amide ligands as $\text{HSi}(\text{NMe}_2)_3$. The removal of amide ligands is incomplete, and the reaction thus yielded " $\text{Ti}(\text{H})(\text{NMe}_2)$ " as the black solid. Subsequent heating of the black solid and $\text{HSi}(\text{NMe}_2)_3$ may then yield TiN and Si_3N_4 , resp., as the Ti-Si-N materials.

RE.CNT 122 THERE ARE 122 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:442465 CAPLUS
DN 135:153134
TI Generation of Homogeneous ($\text{sp}^3\text{-C1}$)-Bridged Cp/Amido and Cp/Phosphido Group
4 Metal Ziegler-Natta Catalyst Systems
AU Kunz, Klaus; Erker, Gerhard; Doering, Steve; Froehlich, Roland; Kehr, Gerald
CS Organisch-Chemisches Institut, Universitaet Muenster, Muenster, D-48149, Germany
SO Journal of the American Chemical Society (2001), 123(25), 6181-6182
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
AB Two synthetic procedures are described for the preparation of "constrained geometry" Ziegler-Natta polymerization catalysts, amido or phosphido-bridged Zr and Ti cyclopentadiene compds.. The complexes are evaluated as catalysts for ethylene homopolymn. and polymerization with 1-octene.

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:431565 CAPLUS
DN 135:100114
TI Dichlorobis(dibenzylamino)bis(tetrahydrofuran)zirconium(IV) toluene hemisolvate
AU Henderson, Kenneth W.; Kennedy, Alan R.; McKeown, Arlene E.; Mulvey, Robert E.
CS Department of Pure and Applied Chemistry, University of Strathclyde, Glasgow, G1 1XL, UK
SO Acta Crystallographica, Section C: Crystal Structure Communications (2001), C57(6), 674-675
CODEN: ACSCEE; ISSN: 0108-2701
PB Munksgaard International Publishers Ltd.
DT Journal
LA English
AB The title complex was prepared in an unusual manner by using $[\text{Mg}\{\text{N}(\text{CH}_2\text{Ph})_2\}_2]$ as a ligand transfer reagent. Crystals are monoclinic, space group C2/c , with a 29.2399(4), b 12.5188(2), c 23.8447(4) Å, β 119.6495(6)°; $Z = 8$, $d_c = 1.305$; $R = 0.050$, $R_w(\text{F}^2) = 0.106$ for 8596 reflections. The Zr atom lies in a distorted octahedral

environment where steric repulsion from the large dibenzylamino ligands leads to a widening of the N-Zr-N angle [99.95(9)°] and corresponding compression of other angles [Cl-Zr-Cl 160.95(3)° and O-Zr-O 78.22(7)°]. This distortion is compared with those found in the previously determined structures of the dimethylamino and diethylamino analogs.

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:24341 CAPLUS
DN 134:139512
TI The pentacoordinate titanium complex [TiCl₂(NMe₂)₂(HNMe₂)]
AU Kirschbaum, Kristin; Conrad, Olaf; Giolando, Dean M.
CS Department of Chemistry, University of Toledo, Toledo, OH, 43606, USA
SO Acta Crystallographica, Section C: Crystal Structure Communications (2000), C56(12), e541
CODEN: ACSCEE; ISSN: 0108-2701
PB Munksgaard International Publishers Ltd.
DT Journal
LA English
AB Amido complexes of Ti are useful reagents in a variety of syntheses and as precursors for CVD of TiN. The title compound, dichlorobis(dimethylamido)(dimethylamine)titanium(IV), [TiCl₂(C₂H₆N)₂(C₂H₇N)], crystallizes with one mol. in the asym. unit. The neutral complex shows an unusual 5-fold coordination of the Ti center with a distorted trigonal-bipyramidal geometry and the dimethylamine mol. occupying an axial position. Crystallog. data are given.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:742860 CAPLUS
DN 134:42198
TI Early transition-metal complexes of α-keto-stabilized phosphorus ylides
AU Spannenberg, Anke; Baumann, Wolfgang; Rosenthal, Uwe
CS IfOK an der Universität Rostock e.V., Rostock, 18055, Germany
SO Applied Organometallic Chemistry (2000), 14(10), 611-615
CODEN: AOCHEX; ISSN: 0268-2605
PB John Wiley & Sons Ltd.
DT Journal
LA English
AB The complexation behavior of α-keto-stabilized phosphorus ylides Ph₃P:CHC(O)R (R = Ph, Me) towards early transition metal ions titanium(IV), zirconium(IV) and niobium(III) was investigated. The complex [Ph₃P:CHC(Ph)O]TiBr₂(NMe₂)₂ was obtained from reaction of phosphonium bromide [Ph₃PCH₂C(O)Ph]Br with Ti(NMe₂)₄. The crystal structure of the complex is discussed. It is frequently observed that the complex formed from the ylide with the early transition metal is very unstable (not isolable) and stabilizes by migration of one NMe₂ group from the starting metal complex to the ylide. Thus, reaction of Ph₃P:CHC(O)Me with Ti(NMe₂)₄ provided novel ylide Ph₃P:CHC(NMe₂):CH₂. Reaction of Ph₃P:CHC(O)Ph with Zr(NMe₂)₄ yielded Ph₂P(O)CH:C(NMe₂)Ph. Niobium complexes of α-keto-stabilized phosphorus ylides Ph₃P:CHC(O)R (R = Ph, Me) were obtained by reacting the ylides with NbCl₃(TMSCH₂CH₂Ph)·DME (TMS = trimethylsilyl; DME = dimethoxyethane) in CH₂Cl₂. The binuclear product, [NbCl₃(η²-TMSCH₂CH₂Ph)(OCR:CHPh₃)]₂, containing two chloro bridges, has a structure that was confirmed by X-ray crystal structure anal.

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:270183 CAPLUS
DN 132:326179
TI Ligand effect on chlorine electron density distribution in titanium tetrachloride complexes
AU Dolenko, G. N.; Gostevskii, B. A.; Poleshchuk, O. Kh.; Latosinska, J.;

Ostafin, M.; Belogolov, M. A.; Grechneva, M. V.
 CS Department of Natural Sciences, East Siberian Institute of Russian
 Ministry for Internal Affairs, Irkutsk, 664077, Russia
 SO Heteroatom Chemistry (2000), 11(3), 177-181
 CODEN: HETCE8; ISSN: 1042-7163
 PB John Wiley & Sons, Inc.
 DT Journal
 LA English
 AB Cl K α line shifts and ³⁵Cl NQR frequencies have been measured for
 series of titanium tetrachloride complexes. Nonempirical calcns. of
 corresponding free ligands have been carried out on the MP2/6-31G* level.
 Dependencies of the exptl. data obtained on exptl. and calculated parameters
 of ligand donor ability have been analyzed. It is shown that the electron
 d. on acceptor chlorine atoms and the elec. field gradient on their nuclei
 are determined at first by the polarizing effect of the ligand.
 RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1998:719935 CAPLUS
 DN 130:46645
 TI Synthesis and Characterization of Group 4 Amido Silyl Complexes Free of
 Anionic π -Ligands
 AU Wu, Zhongzhi; Diminnie, Jonathan B.; Xue, Ziling
 CS Department of Chemistry, The University of Tennessee, Knoxville, TN,
 37996-1600, USA
 SO Inorganic Chemistry (1998), 37(24), 6366-6372
 CODEN: INOCAJ; ISSN: 0020-1669
 PB American Chemical Society
 DT Journal
 LA English
 AB Early transition metal silyl complexes free of anionic π -ligands such
 as cyclopentadienyl (Cp = η^5 -C₅H₅) were synthesized. These Cp-free
 complexes (Me₂N)₃MSi(SiMe₃)₃ [M = Zr (1), Hf (2)], (Me₂N)₃TiSiPh₂But (3),
 (Me₂N)₃ZrSiPh₂But·0.5THF (4), (Me₂N)₃HfSiPh₂But·nTHF [n =
 0.5 (5a), 1 (5b)], and (Me₂N)₂[(Me₃Si)₂N]ZrSiR₃ [SiR₃ = Si(SiMe₃)₃ (7),
 SiPh₂But (8)] were prepared by metathetic reactions of chloro triamido
 complexes (Me₂N)₃MCl (M = Ti, Zr, Hf) or (Me₂N)₂[(Me₃Si)₂N]ZrCl (6) with
 silyllithium reagents Li(THF)₃Si(SiMe₃)₃ or Li(THF)₃SiPh₂But. The
 structures of 1, 3, 4, 5b, and 8 were determined by x-ray crystallog. and show
 that 1, 3, and 8 adopt a distorted tetrahedral coordination geometry while
 4 and 5b have a distorted trigonal bipyramidal geometry around the metal.
 The unit cell parameters are as follows. 1: space group R3c, a 15.505(2),
 c 19.308(4) Å, Z = 6; 3: space group P2₁, a 8.633(5), b 14.790(7), c
 9.388(4) Å, β 92.44(4)°, Z = 2; 4: space group Pbca, a
 16.538(9), b 17.282(7), c 18.566(8) Å, Z = 8; 5b: space group Pna2₁, a
 17.463(6), b 9.453(3), c 17.800(6) Å, Z = 4; 8: space group Pca2₁, a
 19.775(5), b 10.182(2), c 15.752(5) Å, Z = 4. The M-Si bond distances
 for 1, 3, 4, 5b, and 8 are 2.781(2), 2.635(2), 2.803(2), 2.807(4), and
 2.860(2) Å, resp. The Zr-Si bond in 8, to the authors' knowledge, is
 the longest reported Zr-Si bond.
 RE.CNT 73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1998:228998 CAPLUS
 DN 128:270733
 TI Process for synthesizing metallocene compounds
 IN Murata, Kunihiro; Hori, Junichi; Yoshida, Masahiro
 PA Kanto Kagaku K. K., Japan
 SO Eur. Pat. Appl., 19 pp.
 CODEN: EPXXDW

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 834514	A2	19980408	EP 1997-116929	19970930 <--
	EP 834514	A3	19991124		

EP 834514 B1 20031022
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, FI
 JP 10109996 A2 19980428 JP 1996-281644 19961004 <--
 JP 3694371 B2 20050914
 US 5892075 A 19990406 US 1997-936169 19970923 <--
 PRAI JP 1996-281644 A 19961004

OS MARPAT 128:270733

AB The object of the invention resides in the development of an improved process for synthesizing metallocene compds. useful as olefin polymerization catalysts. E.g., bis(N-methylanilido)zirconium dichloride-2THF, prepared in 79% yield from PhNHMe and ZrCl₄ in THF, was complexed with 1,2-di-3-indenylethane to give 98% ethylenedi-1-indenylzirconium bis(N-methylanilide), which was chlorinated with gaseous HCl in CH₂Cl₂ to give 62% ethylenedi-1-indenylzirconium dichloride. Similarly prepared was 51% ethylenedi-1-indenylzirconium dichloride.

L5 ANSWER 10 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:161317 CAPLUS

DN 128:238522

TI Synthesis and crystal structure of [H₂NMe₂][(Me₂NH)₂TiCl₄]-

AU Bettenhausen, Regina; Milius, Wolfgang; Schnick, Wolfgang

CS Laborium Anorganische Chemie, Universitaet Bayreuth, Bayreuth, D-95440, Germany

SO Zeitschrift fuer Naturforschung, B: Chemical Sciences (1998), 53(2), 239-241

CODEN: ZNBSEN; ISSN: 0932-0776

PB Verlag der Zeitschrift fuer Naturforschung

DT Journal

LA German

AB [H₂NMe₂][(Me₂NH)₂TiCl₄] was synthesized as a green solid by the reaction of MeCl₂SiNHSiMe₃ and Ti(NMe₂)₄ in CH₂Cl₂. The crystal structure was determined by single crystal x-ray methods at room temperature (monoclinic, C₂/c, a = 1825.7(4), b = 909.9(2), c = 1116.1(2) pm, β = 125.09(3)°, V = 1517.1(5) + 106 pm³, Z = 4, ρ_c = 1.071 g/cm³, F(000) = 512, μ(MoKα) = 0.547 mm⁻¹, 1346 observed reflections with Fo ≥ 2σ(Fo₂), 84 refined parameters, R₁ = 0.047, wR₂ = 0.147) to be an ionic salt [H₂NMe₂][(Me₂NH)₂TiCl₄]-. The central Ti(III) atom of the anion is bound to 4 Cl atoms and weakly coordinated by 2 Me₂NH ligands.

L5 ANSWER 11 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1996:583535 CAPLUS

DN 125:196710

TI Ziegler catalysts for polymerization of olefins and preparation of ethylene-α-olefin copolymers with high α-olefin content using them

IN Kuribayashi, Hiroshi; Hino, Takahiro; Katayama, Hiroaki; Imai, Akio

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08176217	A2	19960709	JP 1994-325967	19941227 <--
	JP 3473144	B2	20031202		
PRAI	JP 1994-325967		19941227		

OS MARPAT 125:196710

AB Ethylene and α-olefins are polymerized using title catalysts comprising (A) Ti-N link-containing Ti amides, (B) compds. forming stable anions with transition metal compds., and (C) organic Al compds. Thus, 9.07 mL octylamine was treated with 30 mmol BuLi at 5° for 3 h and further treated with 15 mmol TiCl₄ at 5° for 3 h to obtain [(C₈H₁₇)₂N]2TiCl₂, 0.36 g of which was treated with 1.45 mmol benzyl Grignard reagents at -78° for 15 min and at room temperature for 30 min to give [(C₈H₁₇)₂N]2TiCl₂[CH₂(C₆H₅)]₂ (I). Then, butene-1 was polymerized with ethylene at 60° for 1 h in the presence of triisobutylaluminum 0.5, I 0.01, and (Ph₃C)[B(C₆F₅)₄] 0.02 mmol to obtain a copolymer with

degree of branching (Me/1000-C) 65.2 and intrinsic viscosity 4.61 in Tetralin at 135°.

L5 ANSWER 12 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:76728 CAPLUS
DN 124:202470
TI Tri- and Tetravalent Titanium Alkyls Supported by Organic Amides
AU Minhas, Ravinder K.; Scoles, Ludmila; Wong, Shirley; Gambarotta, Sandro
CS Department of Chemistry, University of Ottawa, Ottawa, ON, K1N 6N5, Can.
SO Organometallics (1996), 15(4), 1113-21
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
AB The reactions of both trivalent [(Cy2N)2Ti(μ-Cl)2Li(TMEDA)] (1) and tetravalent [(Cy2N)2TiCl2] (5) with R'Li in THF or di-Et ether gave Ti(IV) complexes (Cy2N)2TiR'2 [R' = CH2CMe3 (7), CH2CMe2Ph (8), CH2SiMe3 (9)]. Conversely, the reactions of 1, [(i-Pr)2N]2TiCl2 [Li(TMEDA)2] (2), and [(Me3Si)2N]2TiCl2 [Li(TMEDA)2] (3) with R'Li [R' = Me, Ph, CH2Ph] gave the corresponding trivalent derivs. [(Cy2N)2Ti(μ-Bz)2Li(TMEDA)] (4a), [(Cy2N)2Ti(μ-Me)2Li(TMEDA)] (4b), [(i-Pr)2N]2TiPh2 [Li(TMEDA)2] (11), and [(Me3Si)2N]2Ti(CH2Ph)2 [Li(TMEDA)2] (12) via simple ligand replacement reactions. Oxidation of 12 with diphenylfulvene gave [(Me3Si)2N]2Ti(CH2Ph)2 (13). All these compds. are thermally labile and yielded intractable materials upon thermolysis. Only in the case of the neophyl derivative (Cy2N)2Ti(CH2CMe2C6H5)2 (8) a cyclometalated compound (Cy2N)2Ti(CH2CMe2C6H4) (10) was isolated and crystallized from the thermolyzed solution. The reaction of 1 with styrene oxide provided the Ti-oxo complex [(Cy2N)2TiCl]2O (14) which gave, upon alkylation with MeLi, the corresponding dinuclear alkyl derivs. [(Cy2N)2TiMe]2O (15). The mol. structures of 1 and 10-14 were demonstrated by x-ray diffraction anal.

L5 ANSWER 13 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:51057 CAPLUS
DN 124:163258
TI Mixed chloro(dialkylamido) complexes of zirconium and hafnium
AU Brenner, Simon; Kempe, Rhet; Arndt, Perdita
CS Max-Planck-Gesellschaft, Rostock, Germany
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (1995), 621(12), 2121-4
CODEN: ZAACAB; ISSN: 0044-2313
PB Barth
DT Journal
LA English
AB Chloro(dialkylamido) complexes (R2N)2MCl2(THF)2 (R = Me, Et; M = Zr and R = Me; M = Hf) were synthesized in a comproportionation reaction by adding an equimolar amount of the corresponding M(NR2)4 to an ether slurry of MCl4 in the presence of THF. X-ray crystal structure detns. of (Et2N)2ZrCl2(THF)2 (1a) and (Me2N)2ZrCl2(THF)2 (1b) reveal a distorted octahedral coordination geometry where the sterically demanding dialkylamide ligands force the chloride and the THF ligands out of their ideal pos. Dynamic NMR studies indicate an equilibrium of complexes with coordinated THF at low temperature in accordance with the structure determined by x-ray crystallog. and of chloro-amido complexes that do not bind THF (at higher temperature).

L5 ANSWER 14 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:915922 CAPLUS
DN 124:87720
TI Enantioselective synthesis of isotopically labeled L-α-amino acids.
Preparation of 13C-, 18O- and 2H-labeled L-serines and L-threonines
AU Karstens, W. F. J.; Berger, H. J. F. F.; van Haren, E. R.; Lugtenburg, J.; Raap, J.
CS Leiden Institute Chemistry, Gorlaeus Labs., Leiden University, Leiden, 2300 RA, Neth.
SO Journal of Labelled Compounds & Radiopharmaceuticals (1995), 36(11), 1077-96
CODEN: JLCRD4; ISSN: 0362-4803
PB Wiley

DT Journal
 LA English
 OS CASREACT 124:87720
 AB Isotopically labeled title compds. are prepared from simple com. available, isotopically enriched starting materials like H₂¹⁸O, [¹³C]-paraformaldehyde, [¹³C]-acetaldehyde and [1-²H]-acetaldehyde. The introduction of the side chain is based on the reaction of the anion of the bislactim ether of cyclo(D-Val-Gly) with a suitable reagent. For serine this is isotopically labeled benzyl chloromethyl ether, whereas for threonine labeled acetaldehyde is used in combination with chlorotitanium tris(diethylamide), introducing both stereocenters in one single step. The isotopomers of serine and threonine are obtained on the gram scale in good yields and high enantiomeric and diastereomeric excesses. New syntheses for [18O]-benzyl alc. and isotopically enriched benzyl chloromethyl ether are reported. Following the presented synthetic schemes, these amino acids can be labeled at any position or at any combination of positions.

L5 ANSWER 15 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:696130 CAPLUS

DN 123:56868

TI Transition metal catalysts and their uses in manufacture of olefin polymers having broad molecular weight distribution for good processability

IN Johoji, Hirobumi; Shiraishi, Hiroyuki; Sasaki, Toshio

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07118317	A2	19950509	JP 1993-266129	19931025 <--
	JP 3435756	B2	20030811		
PRAI	JP 1993-266129		19931025		

OS MARPAT 123:56868

AB The title catalysts contain transition metal-N compds., cycloalkadienyl ligand-containing metal complexes and other co-catalysts. Adding dropwise BuLi (1.65 mmol/mL-hexane) solution 6.1 to a mixture of di-n-octylamine 3.0 and n-heptane 25.0 mL at 5° over 85 min, reacting for 2 h at 5° and 20°, resp., cooling to 5°, adding 11.1 mL a 10 mmol n-heptane solution of TiCl₄ over 45 min to the above mixture, and heating to and reacting at 20° for 1 h gave a solution containing di-n-octylaminotitanium trichloride which was used with Me aluminoxane and bis(cyclopentadienyl)zirconium dichloride in polymerization of butene-1 and ethylene to give a copolymer having Mw 494,000, Mn 13,000 and Mw/Mn 38.0.

L5 ANSWER 16 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:602338 CAPLUS

DN 123:22799

TI Chemical vapor deposition of metal pnictide films using single source precursors

IN Winter, Charles H.; Lewkebandara, T. Suren; Sheridan, Philip H.

PA Wayne State University, USA

SO U.S., 7 pp. Cont. of U.S. Ser. No. 985,099.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5409735	A	19950425	US 1994-278566	19940721 <--
PRAI	US 1994-278566	A1	19940721		
	US 1992-985099		19921130		

AB A process for depositing a film of metal pnictide is given. The process comprises providing a single source of a metal pnictide and heating said source to a temperature sufficient to sublime the single source at a pressure selected from a range of .apprx.0.0001 to 760 torr so that a sublimate is

delivered into a reaction zone. Within this reaction zone, a substrate is provided upon which deposition may occur. The reaction zone is heated to .apprx.200-800°. The sublimate is passed through this reaction zone and over the substrate to produce a thin film of metal pnictide which is deposited upon the substrate.

L5 ANSWER 17 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:340228 CAPLUS
DN 122:150170
TI Synthesis and characterization of dichlorodi(4-t-butylphenoxy)titanium(IV)
AU Malhotra, K. C.; Sharma, Neeraj; Bhatt, S. S.; Chaudhry, S. C.
CS Dep. Chem., Himachal Pradesh Univ., Shimla, 171 005, India
SO Journal of the Indian Chemical Society (1994), 71(9), 571-3
CODEN: JICSAH; ISSN: 0019-4522
PB Indian Chemical Society
DT Journal
LA English
AB [TiCl₂(OC₆H₄tBu-4)₂] was prepared and combined with aliphatic amines to give [TiCl₂(OC₆H₄tBu-4)₂L₂] (L = Et₂NH, PrNH₂, iPrNH₂, BuNH₂, tBuNH₂). The complexes were characterized by elemental anal., molar conductance, mol. weight, and spectral (IR, ¹H NMR, and mass) methods.

L5 ANSWER 18 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:316424 CAPLUS
DN 122:291763
TI Polymerization catalysts and manufacture of ethylene-α-olefin copolymers
IN Sasaki, Toshio; Katayama, Hiroaki; Shiraishi, Hiroyuki; Shimizu, Keiko
PA Sumitomo Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

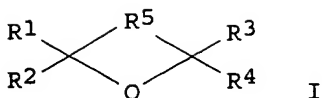
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 06298823	A2	19941025	JP 1993-91147	19930419 <--
PRAI JP 1993-91147		19930419		
OS MARPAT 122:291763				
AB	Ethylene-α-olefin copolymers are manufactured with catalysts comprising (R ₁ R ₂ N)4-(m+n)MX _m Y _n (R ₁ , R ₂ = C ₁ -30 hydrocarbyl; M = Zr, Hf; X = halo; Y = alkoxy; 0 ≤ m ≤ 3; 0 ≤ n ≤ 3; 0 ≤ m + n ≤ 3) and (R ₃)a(R ₄)b(R ₅)cAlZ ₃ -(a+b+c) (R ₃ -R ₅ = C ₁ -6 hydrocarbyl; Z = H, alkoxy; 0 ≤ a, b, c ≤ 3; 1 ≤ a + b + c ≤ 3). Thus, ethylene and 1-hexene were copolymd. in PhMe with AlEt ₃ and (Et ₂ N)4Zr (preparation given) at 180° for 2 min to give 2500 g copolymer/mol Zr with limiting viscosity number 0.39 and hexene content 8.7%.			

L5 ANSWER 19 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:267040 CAPLUS
DN 122:32328
TI Ethylene-α-olefin copolymerization catalysts and manufacture ethylene-α-olefin copolymers using the same
IN Johoji, Hirobumi; Shiraishi, Hiroyuki; Sasaki, Toshio
PA Sumitomo Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 06157634	A2	19940607	JP 1992-318127	19921127 <--
PRAI JP 1992-318127		19921127		
OS MARPAT 122:32328				
GI				



AB The title catalysts providing high-mol.-weight polymers with good weather resistance, color, transparency, anticorrosive properties, and mech. properties comprise (A) reaction products from Ti-N bond-containing Ti compds. and organic derivs. of Group IA, II, IIIA, and IVA elements, (B) organoaluminum compds., and (C) sterically hindered cyclic ethers I (R1-4 = H, hydrocarbyl and 2 of R1-4 may connected to each other, excluding R1 = R2 = H and R3 = R4 = H; R5 = hydrocarbyl). Ethylene and 1-butene were copolymd. in the presence of tris(dioctylamino)titanium chloride-BuLi reaction product, triethylaluminum, and 2,2,5,5-tetramethyltetrahydrofuran to give a copolymer with narrow composition distribution, catalyst efficiency 82,100 g polymer/mol-Ti-h, and 1-butene content 8.3%.

L5 ANSWER 20 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:264548 CAPLUS

DN 122:32329

TI Ethylene- α -olefin copolymerization catalysts and manufacture of ethylene- α -olefin copolymers using the same

IN Johoji, Hirobumi; Shiraishi, Hiroyuki; Sasaki, Toshio

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 18 pp.

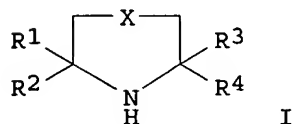
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06157633	A2	19940607	JP 1992-318126	19921127 <--
PRAI	JP 1992-318126		19921127		
OS	MARPAT 122:32329				
GI					



AB The title catalysts providing high-mol.-weight polymers with good weather resistance, color, transparency, anticorrosive properties, and mech. properties comprise (A) reaction products from Ti-N bond-containing Ti compds. and organic derivs. of Group IA, II, IIIA, and IVA elements, (B) organoaluminum compds., and (C) piperidine and/or pyrrolidine compds. I [X =direct bond, CH₂; R1-4 = H, (un)substituted alkyl, excluding R1 = R2 = H and R3 = R4 = H]. Ethylene and 1-butene were copolymd. in the presence of tris(dioctylamino)titanium chloride-BuLi reaction product, triethylaluminum, and 2,2,6,6-tetramethylpiperidine to give a copolymer with narrow composition distribution, catalyst efficiency 194,900 g polymer/mol-Ti-h, and 1-butene content 7.2%.

L5 ANSWER 21 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:103764 CAPLUS

DN 122:106776

TI Catalysts for polymerization of olefins and manufacture of ethylene- α -olefin copolymers

IN Sasaki, Toshio; Johoji, Hirobumi; Shiraishi, Hiroyuki

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06199939	A2	19940719	JP 1992-347644	19921228 <--
PRAI	JP 1992-347644		19921228		

OS MARPAT 122:106776

AB Ethylene- α -olefin copolymers having narrow composition distribution, high mol. weight, and good weather resistance, transparency, etc., are manufactured with catalysts comprising Ti-N bond-containing Ti compds., organomagnesium compds., and halogen-containing Al compds. Thus, ethylene was polymerized with hexene-1 in PhMe in the presence of Et₂AlCl, [(C₈H₁₇)₂N]₄Ti (prepared from TiCl₄ and dioctylamine), and BuEtMg at 180° and 25 kg/cm² for 2 min to give 2.5 + 105 g copolymer/mol-transition metal having hexene-1 content 9.7% and m.p. 99.4°.

L5 ANSWER 22 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:72540 CAPLUS

DN 122:229196

TI Structure and reactions of tetrahydroborates: New results with a fascinating ligand

AU Noeth, Heinrich; Thomann, Martina; Bremer, Mathias; Wagner, Gerhard

CS INSTITUTE INORGANIC CHEMISTRY, UNIVERSITY MUNICH, Munich, 80333, Germany

SO Special Publication - Royal Society of Chemistry (1994),

143(CURRENT TOPICS IN THE CHEMISTRY OF BORON), 387-91

CODEN: SROCDQ; ISSN: 0260-6291

DT Journal

LA English

AB The preparation and reactivity of Ti and alkaline earth borohydride complexes, Ti amido hydrides and their mol. structures are discussed.

L5 ANSWER 23 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:714509 CAPLUS

DN 121:314509

TI preparation and characterization of trichloromono(4-methoxyphenoxo)titanium(IV)

AU Malhotra, K. C.; Sharma, Neeraj; Bhatt, S. S.; Chaudhry, S. C.

CS Department of Chemistry, Himachal Pradesh University, Shimla, 171 005, India

SO Journal of the Indian Chemical Society (1994), 71(3), 139-41

CODEN: JICSAH; ISSN: 0019-4522

DT Journal

LA English

AB TiCl₄ reacted with 4-methoxyphenol to give trichloro(4-methoxyphenoxo)titanium(IV) which reacted with 8 amines to give addition complexes with 2 coordinated amines and octahedral structures.

L5 ANSWER 24 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:581100 CAPLUS

DN 121:181100

TI An ethylene- α -olefin copolymer and a molded article therefrom

IN Sasaki, Toshio; Miyazaki, Kohzoh; Shiraishi, Hiroyuki; Shigematsu, Yuji; Johoji, Hirofumi; Uemura, Akio; Sato, Yufu

PA Sumitomo Chemical Co., Ltd., Japan

SO Eur. Pat. Appl., 21 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 588567	A1	19940323	EP 1993-307152	19930910 <--
	R: BE, DE, FR, GB, IT, NL				
	JP 06166724	A2	19940614	JP 1993-216131	19930831 <--
	JP 3355534	B2	20021209		
	CA 2105815	AA	19940311	CA 1993-2105815	19930909 <--
	CA 2105815	C	20040907		
	CN 1087648	A	19940608	CN 1993-116838	19930909 <--
	CN 1073575	B	20011024		

SG 86302 A1 20020219 SG 1996-5816 19930910 <--
 US 5602223 A 19970211 US 1996-611018 19960305 <--
 PRAI JP 1992-241749 A 19920910
 US 1993-118266 B1 19930909
 US 1994-357785 B1 19941216
 AB An ethylene- α -olefin copolymer having; (A) a d. (ρ) of from 0.870 to 0.945 g/cm³, (B) a ratio (TVR) of trans-vinylene type carbon-carbon double bonds to total carbon-carbon double bonds as determined with an IR absorption spectrum being 35% or more, and (C) a weight average mol. weight (Mw) of from 30,000-600,000 is prepared and molded to give an article having an excellent transparency, high gloss and high melt tension. Thus, 1-butene-ethylene copolymer with Mw 112,000, ρ 0.9147, TVR 47%, prepared in the presence of EtBuMg, Et₃Al, and [(C₈H₁₇)₂N]₃TiCl, exhibited melt tension 6.1 g, film gloss 130%, and film haze 3.3%, compared with 4.5, 70, and 13.7, resp., for Sumikathene L FA101-1 having Mw 118,000, ρ 0.9198, and TVR 11%.

L5 ANSWER 25 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1993:138503 CAPLUS
 DN 118:138503
 TI Preparation and characterization of monochlorotris(4-tert-butylphenoxo)titanium(IV)
 AU Malhotra, K. C.; Sharma, Neeraj; Bhatt, S. S.; Chaudhry, S. C.
 CS Dep. Chem., Himachal Pradesh Univ., Shimla, 171005, India
 SO Polyhedron (1992), 11(16), 2065-8
 CODEN: PLYHDE; ISSN: 0277-5387
 DT Journal
 LA English
 AB TiCl(OR)₃ (1) was prepared from TiCl₄ and 4-Me₃CC₆H₄OH (ROH) and characterized by elemental anal., IR, NMR and mass spectral studies. The 1:2 addition compds. of 1 with some aliphatic amines were prepared. The behavior of 1 in the presence of strong Cl⁻ acceptors such as AlCl₃, FeCl₃, SbCl₃, PCl₅, and SbCl₅ was studied using conductance techniques.

L5 ANSWER 26 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1992:427412 CAPLUS
 DN 117:27412
 TI Homogeneous titanium complex catalysts and their manufacture and use in olefin polymerization
 IN Hefner, John G.; Kolthammer, Brian W. S.; Gifford, Dennis R.
 PA Dow Chemical Co., USA
 SO Eur. Pat. Appl., 24 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 476671	A2	19920325	EP 1991-115975	19910919 <--
	EP 476671	A3	19920610		
	EP 476671	B1	19971105		
	R: BE, DE, ES, FR, GB, IT, NL, SE				
	BR 9104067	A	19920526	BR 1991-4067	19910918 <--
	CA 2051886	AA	19920321	CA 1991-2051886	19910919 <--
	EP 745617	A2	19961204	EP 1996-114415	19910919 <--
	EP 745617	A3	19970205		
	R: BE, DE, ES, FR, GB, IT, NL, SE				
	ES 2109250	T3	19980116	ES 1991-115975	19910919 <--
	KR 224948	B1	19991015	KR 1991-16340	19910919 <--
	JP 04279592	A2	19921005	JP 1991-313020	19910920 <--
	US 5194532	A	19930316	US 1992-898046	19920612 <--
	US 5312938	A	19940517	US 1993-42027	19930402 <--
PRAI	US 1990-586629	A	19900920		
	EP 1991-115975	A3	19910919		
	US 1992-897719	B3	19920612		
OS	MARPAT 117:27412				
AB	LTi(NR12)(NR22)(NR32) [I, L = π -bonding ligand (e.g., indene), R ₁ , R ₂ , R ₃ = C1-4-alkyl], useful as homogeneous catalysts for olefin polymerization, are prepared by reaction of the ligands or their metalated derivs. with the				

corresponding Ti amides or by reaction of the corresponding Li amides with $\text{LTi}(\text{NR}_1\text{R}_2)(\text{NR}_2)_2\text{X}$ (L, R₁, R₂ = same as in I, X = halo). Thus, refluxing 75 mL PhMe, 10.48 mmol $\text{Ti}(\text{NMe}_2)_4$, and 20.96 mmol indene 24 h gave 70% red oil, and polymerization of ethylene with octene at 150° for 10 min in the presence of H, this oil, and Me aluminoxane gave polymer at 12 kg/g Ti.

L5 ANSWER 27 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1991:177269 CAPLUS

DN 114:177269

TI Lewis acidic titanium species: the synthesis, structure, bonding and molecular modeling considerations of the complexes $\text{Ti}(\text{NR}_2)_3\text{Cl}$ (R = Me, Et)

AU Dick, David G.; Rousseau, Roger; Stephan, Douglas W.

CS Dep. Chem. Biochem., Univ. Windsor, Windsor, ON, N9B 3P4, Can.

SO Canadian Journal of Chemistry (1991), 69(2), 357-62

CODEN: CJCHAG; ISSN: 0008-4042

DT Journal

LA English

AB Reaction of LiNR_2 (R = Me, Et) with TiCl_4 affords $\text{Ti}(\text{NR}_2)_4\text{-nCl}_n$.

$\text{Ti}(\text{NR}_2)_3\text{Cl}$ can be prepared directly employing 3 equiv of NR_2^- or by reacting

$\text{Ti}(\text{NR}_2)_4$ with TiCl_4 . $\text{Ti}(\text{NMe}_2)_3\text{Cl}$ crystallizes as trigonal, space group

R $\bar{3}$ h, $a = 11.525(5)$, $c = 14.939(3)$ Å, $Z = 6$, $R = 0.0323$, $R_w =$

0.0333 . $\text{Ti}(\text{NEt}_2)_3\text{Cl}$ crystallizes as monoclinic, space group $P2_1/c$, a

$8.385(2)$, $b = 15.958(2)$, $c = 14.230(4)$ Å, $\beta = 107.79(1)^\circ$, $Z = 4$,

$R = 0.0475$, $R_w = 0.0522$. The geometry of the Ti coordination sphere in

these complexes is best described as pseudo-tetrahedral. The structural

data are consistent with Ti-N multiple bonding. Preliminary results of

EHMO calcns. are consistent with $d\pi\text{-}p\pi$ Ti-N bonding. Attempts to

replace the halides with LiPR'_2 (R' = Me, Et, Ph) led not to the Ti(IV)

phosphido species, but rather to redox chemical yielding Ti(III) amides and

$\text{P}_2\text{R}'_4$. The barrier to rotation about the Ti-N bonds has considered.

Variable temperature ^1H NMR studies reveal that the barrier is small. Extended

Hueckel total energy minimization calcns. were performed. MMX calcns. of

the barrier to Ti-N rotation are reported. The results of these calcns.

imply that the rotational barrier is dominated by steric effects.

L5 ANSWER 28 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1985:453346 CAPLUS

DN 103:53346

TI Chemoselective addition of organotitanium reagents to carbonyl compounds

AU Reetz, Manfred T.; Westermann, Juergen; Steinbach, Rainer; Wenderoth,

Bernd; Peter, Roland; Ostarek, Ralph; Maus, Sabina

CS Fachbereich Chem., Univ. Marburg, Marburg, D-3550, Fed. Rep. Ger.

SO Chemische Berichte (1985), 118(4), 1421-40

CODEN: CHBEAM; ISSN: 0009-2940

DT Journal

LA English

OS CASREACT 103:53346

AB The conversion of classical carbanions such as RMgX , RLi , or deprotonated

nitriles, sulfones, and carboxylic esters into titanium analogs results in

reagents which add chemoselectively to carbonyl compds. in the presence of

other functional groups. The standard titanating agent is

chlorotriisopropoxytitanium. Grignard-type reactions and aldol addns. are

aldehyde-selective in the presence of ketones. Other functional groups

such as alkyl and aryl halides, esters, amides as well as nitro and cyano

moieties are tolerated. Discrimination between two aldehydes or two

ketones is also possible. Replacing alkoxy ligands by Me groups at

titanium increases reactivity dramatically, relative rates increasing in

the series $\text{MeTi}(\text{OCHMe}_2)_3 < \text{Me}_2\text{Ti}(\text{OCHMe}_2)_2 < \text{Me}_4\text{Ti}$. The latter reagent and

its zirconium analog methylate sterically hindered and/or enolizable

ketones which normally fail to undergo Grignard reactions. The ate

complex $\text{H}_2\text{C:CHCH}_2\text{Ti}(\text{OCHMe}_2)_4\text{MgCl}$ is aldehyde-selective, while the amino

analog $\text{H}_2\text{C:CHCH}_2\text{Ti}(\text{NMe}_2)_4\text{MgCl}$ adds selectivity to ketones in the presence

of aldehydes.

L5 ANSWER 29 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1985:38520 CAPLUS

DN 102:38520

TI Synthesis and properties of zirconium tetrachloride-isopropylbenzylamine coordination compounds

AU Gao, Yici; Gao, Hongfeng; Shen, Fengjia
 CS Lanzhou Univ., Lanzhou, Peop. Rep. China
 SO Lanzhou Daxue Xuebao, Ziran Kexueban (1984), 20(1), 161-2
 CODEN: LCTHAF; ISSN: 0455-2059
 DT Journal
 LA Chinese
 AB Benzylisopropylamine (L) and $ZrCl_4$ in petroleum ether gave $ZrCl_4 \cdot 2L \cdot 4H_2O$ and $ZrCl_4 \cdot L \cdot 4H_2O$. The IR and NMR spectra of the 2 complexes were measured. The $ZnCl_4$ complexes are soluble in polar solvents, such as MeOH, EtOH, and DMSO, and decomposed completely at 690° to give ZrO_2 .

L5 ANSWER 30 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1983:490337 CAPLUS
 DN 99:90337
 TI An economical large-scale synthesis of titanium tetrakis[diethylamide] and chlorotitanium tris[diethylamide]
 AU Reetz, M. T.; Urz, R.; Schuster, T.
 CS Fachbereich Chem., Univ. Marburg, Marburg, D-3550, Fed. Rep. Ger.
 SO Synthesis (1983), (7), 540
 CODEN: SYNTBF; ISSN: 0039-7881
 DT Journal
 LA English
 AB $HfEt_2$, Li, and styrene are reacted to form $LiNEt_2$ and ethylbenzene. The $LiNEt_2$ is reacted with $TiCl_4$ at a rate of 0.25 mol $TiCl_4$ per mol $LiNEt_2$ to prepare $Ti(NEt_2)_4$. When 0.33 mol $TiCl_4$ is added, the product is $ClTi(NEt_2)_3$. The yields are 75 and 77%, resp., and the purities >96% for both compds.

L5 ANSWER 31 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1982:471904 CAPLUS
 DN 97:71904
 TI Erythro selective aldol condensation using titanium enolates
 AU Reetz, M. T.; Peter, R.
 CS Fach. Chem., Univ. Marburg, Marburg, 3550, Fed. Rep. Ger.
 SO Tetrahedron Letters (1981), 22(47), 4691-4
 CODEN: TELEAY; ISSN: 0040-4039
 DT Journal
 LA English
 OS CASREACT 97:71904
 AB Ti enolates derived from acyclic or cyclic ketones react with $RCHO$ ($R = Ph, cyclohexyl, Me_3C, Et, Me_2CH$) to give erythro adducts with high diastereoselectivity. E.g., a 36:64 mixture of (Z)- and (E)- $MeCH:CEtOTi(OCHMe_2)_3$, prepared from the corresponding Li enolate and $ClTi(OCHMe_2)_3$, on treatment with $PhCHO$ in pentane at -120° for 1 h gave an 89:11 erythro-threo mixture of hydroxy ketones in >70% yield.

L5 ANSWER 32 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1981:425228 CAPLUS
 DN 95:25228
 TI Attempts to prepare alkylidene zirconium complexes by α -hydrogen atom abstraction
 AU Wengrovius, Jeffrey H.; Schrock, Richard R.
 CS Dep. Chem. 6-331, Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
 SO Journal of Organometallic Chemistry (1981), 205(3), 319-27
 CODEN: JORCAI; ISSN: 0022-328X
 DT Journal
 LA English
 AB Several new neopentyl halide complexes of Zr were prepared in order to test whether they could be induced to lose neopentane and give neopentylidene complexes by adding P or N donor ligands. $ZrNp_2X_2$ ($X = Cl, Br, Np = CH_2CMe_3$) can be prepared in ether and isolated as a dietherate. It reacts with L ($L = PMe_3, PMe_2Ph, NEt_3, L_2 = Me_2PCH_2CH_2PMe_2$ (L_1), $Me_2NCH_2CH_2NMe_2$) to give $ZrNp_2X_2L_2$. $ZrNp_3Cl$ can be prepared by adding $MgNp_2$ to $ZrNp_2Cl_2(ether)_2$ and isolated by sublimation in 25% yield. On adding PMe_3 or L_1 , it disproportionates to $ZrNp_4$ and $ZrNp_2Cl_2L_2$. $ZrCp^*NpCl_2$ ($Cp^* = \eta^5-C_5Me_5$), $ZrCp^*Np_2Cl$, and $ZrCp^*Np_3$ were prepared by adding $MgNp_2$ to $ZrCp^*Cl_3$. Only the last is a solid, only the first forms an adduct, $ZrCp^*NpCl_2(PMe_3)$. None of the complexes decomposed to tractable products in the presence of L. Photolysis of $ZrNp_2Cl_2(PMe_3)_2$ yielded $[Zr(PMe_3)_2Cl_3]_2$

by an apparently complex reaction initiated by homolytic Zr-Np bond fission.

- L5 ANSWER 33 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1980:163510 CAPLUS
DN 92:163510
TI Coordination studies of hafnium(IV): reactions of hafnium(IV) bromide or iodide and bis(π -cyclopentadienyl)titanium(II), -zirconium(II), or -hafnium(II) chloride with trimethylamine
AU Wade, S. R.; Willey, G. R.
CS Dep. Chem. Mol. Sci., University of Warwick, Coventry, CV4 7AL, UK
SO Journal of the Less-Common Metals (1979), 68(1), 105-6
CODEN: JCOMAH; ISSN: 0022-5088
DT Journal
LA English
AB Reaction of HfX_4 with Me_3N gave $HfX_4 \cdot 2NMe_3$ ($X = Br, I$). Addition of THF to $HfCl_4 \cdot 2NMe_3$ gave $HfCl_4 \cdot 2THF$. Reduction of Cp_2TiCl_2 ($Cp = \eta^5$ -cyclopentadienyl) with NMe_3 gave $[Cp_2TiCl]_2$. Cp_2MCl_2 ($M = Zr, Hf$) did not react with NMe_3 .
- L5 ANSWER 34 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1977:114708 CAPLUS
DN 86:114708
TI cis-Tetrachlorobis(trimethylamine)hafnium(IV): synthesis and characterization
AU Willey, G. R.
CS Dep. Mol. Sci., University of Warwick, Coventry, UK
SO Inorganica Chimica Acta (1977), 21(1), L12
CODEN: ICHAA3; ISSN: 0020-1693
DT Journal
LA English
AB The reaction of $HfCl_4$ with Me_3N gave cis- $HfCl_4(Me_3N)_2$ without reduction of the metal as occurs in reactions of Me_3N with halides of metals (e.g. Ti) in the early transition series.
- L5 ANSWER 35 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1977:37111 CAPLUS
DN 86:37111
TI Trimethylamine complexes of zirconium(IV) halides
AU Hughes, J.; Willey, G. R.
CS Dep. Mol. Sci., University of Warwick, Coventry, UK
SO Inorganica Chimica Acta (1976), 20(2), 137-40
CODEN: ICHAA3; ISSN: 0020-1693
DT Journal
LA English
AB The $Zr(IV)$ derivs. $ZrX_4 \cdot 2NMe_3$ ($X = Cl, Br, \text{ and } I$) were obtained from direct reaction of the appropriate metal halide with an excess of Me_3N . Structural evidence for a monomeric formulation is provided specifically for the chloride and bromide complexes. Spectral evidence for a 6-coordinate cis- $ZrCl_4(NMe_3)_2$, cis- $ZrBr_4(NMe_3)_2$ and trans- $ZrI_4(NMe_3)_2$ arrangement of ligands within the series is presented and discussed.
- L5 ANSWER 36 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1973:505383 CAPLUS
DN 79:105383
TI Titanium-nitrogen compounds. XVII. σ -(Ferrocenyl)dialkylamidotitanium
AU Buerger, Hans; Kluess, Carsten
CS Inst. Anorg. Chem., Tech. Univ., Brunswick, Fed. Rep. Ger.
SO Journal of Organometallic Chemistry (1973), 56, 269-77
CODEN: JORCAI; ISSN: 0022-328X
DT Journal
LA German
GI For diagram(s), see printed CA Issue.
AB Mono- and dilithioferrocene react with dialkylamidotitanium bromides $(R_2N)_3TiBr$ ($R = Me, Et$) to yield h^1 -ferrocenyltitanium dialkylamides (II, III, IV). In these compds. the cyclopentadienyl groups are π -linked to Fe and σ -bonded to Ti; the structures are rigid in the NMR time

scale. Dependent on the NR₂ substituent, the TiC σ -bond is stable up to .apprx.60° for short periods.

- L5 ANSWER 37 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1973:461050 CAPLUS
DN 79:61050
TI Titanium-nitrogen compounds. 16. Dialkylamidotitanium fluorides
AU Buerger, H.; Wiegel, K.
CS Inst. Anorg. Chem., Tech. Univ. Braunschweig, Brunswick, Fed. Rep. Ger.
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (1973),
398(3), 257-72
CODEN: ZAACAB; ISSN: 0044-2313
DT Journal
LA German
AB (R₂N)TiF₃ (R = Me and Et), (R₂N)₂TiF₂, and (Et₂N)₃TiF were prepared by reaction of TiF₄ with Me₃SiNR₂, of TiF₄ with (R₂N)₄Ti, and of (Et₂N)₄Ti with PhPF₄, resp. (Me₂N)TiF₃ was also prepared from (Me₂N)₄Ti and PF₅. (Et₂N)₃TiF was monomeric in solution, whereas (Et₂N)₂TiF₂ was oligomeric with a concentration-dependent association degree and Me₂NTiF₃, (Me₂N)₂TiF₂, and (Et₂N)TiF₃ formed coordination polymers. The compds. were characterized by their PMR, ¹⁹F-NMR, and ir spectra.
- L5 ANSWER 38 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1973:118671 CAPLUS
DN 78:118671
TI Preparation and proposed structure for bis[bis(dimethylamino)bromoborane]-tris(titanium tetrabromide)
AU Suliman, M. R.; Schram, E. P.
CS Evans Chem. Lab., Ohio State Univ., Columbus, OH, USA
SO Inorganic Chemistry (1973), 12(4), 920-2
CODEN: INOCAJ; ISSN: 0020-1669
DT Journal
LA English
AB Treatment of [Me₂N]₂BBr with TiBr₄ affords { [Me₂N]₂-BBr }₂{TiBr₄}₂. The stoichiometry of the latter was established by determination of the reactant ratio and by nucleophilic degradation affording TiBr₄. NMe₃ and [Me₂N]₂BBr. A structure is proposed for { [M₃2N]₂BBr }₂{TiBr₄}₃ based on ir spectral assignments and the unusual stoichiometry of this compound
- L5 ANSWER 39 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1972:30263 CAPLUS
DN 76:30263
TI Reaction of 5-N-substituted aminofurfurals with Group IV element tetrachlorides
AU Shelepina, V. L.; Pustovarov, V. S.
CS USSR
SO Issled. Termogr. Korroz. (1970) 218-21
From: Ref. Zh., Khim. 1971, Abstr. No. 1Zh26
DT Journal
LA Russian
AB The ir spectra indicated that 5-(dialkylamino)furfurals (I) formed 2:1 complexes with Sn, Ti, and Ge tetrachlorides. With 5-(dimethylamino)furfural (II), 5-piperidinofurfural (III), and 5-(diethylamino)furfural (IV), coordination occurred with the N atom, decreasing in the order: II>III>IV>morpholinofurfural. During reaction of MCl₄ with phenyl-5-(methylamino)-furfural, a significant pos. shift of the C:O bonds was observed in the spectra of the complexes, which indicated a complexation at O; steric and induction effects of the Ph group inhibited the formation of the bond at N.
- L5 ANSWER 40 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1971:119492 CAPLUS
DN 74:119492
TI Titanium-nitrogen compounds. II. Dialkylamidotitanium iodides
AU Buerger, Hans; Kluess, Carsten; Neese, Hans J.
CS Inst. Anorg. Chem., Tech. Univ. Braunschweig, Brunswick, Fed. Rep. Ger.
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (1971),
381(2), 198-204
CODEN: ZAACAB; ISSN: 0044-2313

DT Journal
LA German
AB (R₂N)₃TiI and (R₂N)₂TiI₂ (R = Et, Me) were prepared by the reaction of TiI₄ and (R₂N)₄Ti in C₆H₆. The compds. were characterized by ir and NMR spectra; their properties resemble those of the corresponding bromides. Attempts to prepare R₂NTiI₃ were not successful.

L5 ANSWER 41 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1970:451809 CAPLUS

DN 73:51809

TI Complexes of titanium(III) halides with several amines [dimethylamine, diethylamine, ethylenediamine, propylenediamine, and N,N,N',N'-tetramethylethylenediamine] and some related reactions involving vanadium(III) chloride and disodium tetrachlorotitanate(II)

AU Fowles, Gerald W. A.; Lester, T. E.; Lewis, David F.; Walton, Richard A.
CS Dep. Chem., Univ. Reading, Reading, UK

SO Journal of Inorganic and Nuclear Chemistry (1970), 32(6), 1933-47

CODEN: JINCAO; ISSN: 0022-1902

DT Journal

LA English

AB The systems TiX₃-ethylenediamine (X = Cl or Br) have been reinvestigated and the existence of complexes of stoichiometry TiX₃.4en confirmed. These reaction products were independent of reaction solvent (neat ethylenediamine, C₆H₆, tetrahydrofuran, or MeCN) except in the case of the reaction of TiCl₃ with ethylenediamine (1:2-1:3 mole proportions) using MeCN as solvent. In this instance a product of stoichiometry TiCl₃.3en was isolated. The compds. TiX₃.4en contain the [Tien₄]³⁺ cation although the stereochemistry of the latter remains in doubt. The related reaction of the trichloride with propylenediamine (pn) yields blue TiCl₃.4pn. The trihalides TiCl₃, TiBr₃ and VCl₃ react with N,N,N',N'-tetramethylethylenediamine (TMEN) to form the complexes MX₃.1.5TMEN, which behave as 1:1 electrolytes in MeCN and have electronic absorption spectra characteristic of 2 absorbing metal ion species. These derivs. are accordingly formulated as ionic [MX₂.2TMEN]⁺[MX₄.TMEN]⁻. TiCl₃ dissolves in Me₂NH to form the green neutral complex TiCl₃.3Me₂NH, but the related reaction involving Et₂NH results in the formation of aminolysis products. The complexes TiCl₃.2Et₂NH and [Et₂NH₂][TiCl₄.2Et₂NH] which are believed to be reaction intermediates in the aminolysis process have been synthesized by alternative routes. The Ti(II) halide Na₂TiCl₄ is oxidized by liquid Me₂NH with the resulting formation of the red crystalline Ti(III) species TiCl₂(NMe₂).3Me₂NH.

L5 ANSWER 42 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1970:18002 CAPLUS

DN 72:18002

TI Titanium-nitrogen compounds. VI. Dialkylaminotitanium bromides

AU Buerger, Hans; Neese, Hans J.

CS Tech. Univ. Braunschweig, Brunswick, Fed. Rep. Ger.

SO Zeitschrift fuer Anorganische und Allgemeine Chemie (1969), 370(5-6), 275-82

CODEN: ZAACAB; ISSN: 0044-2313

DT Journal

LA German

AB R₂NSiMe₃ (R = Me, Et) was cleaved by TiBr₄ to give R₂NTiBr₃. (R₂N)₂TiBr₂ and (R₂N)₃TiBr were obtained by the metathesis reaction of TiBr₄ and Ti(NR₂)₄. The compds. were characterized by NMR and IR spectra. The R₂NTiBr₃ derivs. associate forming Ti-Br-Ti bridges.

L5 ANSWER 43 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1969:83816 CAPLUS

DN 70:83816

TI Complexes of tetrachlorides of Group IV elements with 5-(dialkylamino)furfurals

AU Pustovarov, V. S.; Shelepina, V. L.; Shelepin, O. E.; Nazarova, Z. N.; Osipov, O. A.

CS USSR

SO Zhurnal Obshchei Khimii (1968), 38(12), 2763-6

CODEN: ZOKHA4; ISSN: 0044-460X

DT Journal
 LA Russian
 AB HCl salts and metal tetrachloride complexes with furfural derivs. were prepared. Only the phenylamino members complexed through the carbonyl groups; all the others complexed through the N atoms, as judged from the band shifts in their ir spectra. The following complexes were prepared: 5-(dimethylamino)furfural with: TiCl_4 , red-brown; GeCl_4 , colorless; SnCl_4 , yellow-green; HCl, colorless; 5-(diethylamino)furfural with: TiCl_4 , red-brown; GeCl_4 , pink; SnCl_4 , yellow-green; HCl, colorless; 5-(piperidino)furfural with: TiCl_4 , red-brown; GeCl_4 , lilac; SnCl_4 , yellow-green; HCl, colorless; 5-(morpholino)furfural with: TiCl_4 , red-brown; GeCl_4 , yellow; SnCl_4 , yellow; HCl, brown; 5-(methylphenylamino)furfural with: TiCl_4 , yellow; GeCl_4 , -; SnCl_4 , yellow; HCl, brown. All complexes with the metal tetrachlorides contained 2 mols. of the ligand/metal atom; HCl formed 1:1 salts with all ligands.

L5 ANSWER 44 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1968:502661 CAPLUS
 DN 69:102661
 TI Reaction of 5-(N-dialkylamino)furfurals with tetrachlorides of group IV elements
 AU Shelepina, V. L.; Pustovarov, V. S.; Osipov, O. A.; Nazarova, Z. N.
 CS USSR
 SO Zhurnal Obshchei Khimii (1968), 38(3), 666
 CODEN: ZOKHA4; ISSN: 0044-460X
 DT Journal
 LA Russian
 GI For diagram(s), see printed CA Issue.
 AB I, where R = Me (II), Et (III), or Ph (IV) or R₂N = piperidine (V), in anhydrous C₆H₆ or hexane form colored crystalline coordination compds. with TiCl_4 , SnCl_4 , and GeCl_4 in which the MCl₄:ligand ratio was 1:2. The compds. hydrolyzed easily in the air. The ir absorption spectra of the compds. at 400-4000 cm.⁻¹ indicated that the tetrachlorides were coordinated with N of II, III, and V. Formation of a complex with III was made difficult by steric hindrance produced by the Et group. The complexes of this compound were particularly unstable and hydrolyzed in air more readily than the others. For IV, there was a considerable neg. displacement of the CO band frequency as a result of the formation of complexes with SnCl_4 and TiCl_4 indicating complex formation through the O atom. Failure of the formation of a complex by GeCl_4 confirmed that this compound is incapable of forming complexes by coordinating with O.

L5 ANSWER 45 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1968:448846 CAPLUS
 DN 69:48846
 TI Reactivity of titanium(IV) oxide dichloride towards nitrogen and oxygen donor molecules and a study of the complex anions TiOCl_4^{2-} and TiOCl_5^{3-}
 AU Fowles, G. W. A.; Lewis, D. F.; Walton, R. A.
 CS Univ. Reading, Whiteknights, UK
 SO Journal of the Chemical Society [Section] A: Inorganic, Physical, Theoretical (1968), (7), 1468-73
 CODEN: JCSIAP; ISSN: 0022-4944
 DT Journal
 LA English
 AB The direct reaction of TiOCl_2 with a range of ligand mols. leads to the formation of complexes of stoichiometry $\text{TiOCl}_2 \cdot 2\text{L}$, (L = MeCN, Me₃N, tetrahydropyran, and tetrahydrofuran). With pyridine, ethylene glycol dimethyl ether (EGDE), and 1,4-dioxane the following complexes were obtained: $\text{TiOCl}_2 \cdot 2.5\text{py}$, $\text{TiOCl}_2 \cdot \text{EGDE}$, and $\text{TiOCl}_2 \cdot 1.5\text{C}_4\text{H}_8\text{O}_2$. The last complex can be used as a synthetic intermediate and its reaction with 2,2'-bipyridine (bipy) and α -picoline (α -pic) results in the displacement of 1,4-dioxane and the formation of $\text{TiOCl}_2 \cdot \text{bipy}$ and $\text{TiOCl}_2 \cdot 2\alpha\text{-pic}$. Only in the case of $\text{TiOCl}_2 \cdot 2\alpha\text{-pic}$ and $\text{TiOCl}_2 \cdot 2\text{NMe}_3$ do ir spectral measurements indicate the presence of terminal Ti:O groups. The Me₃N adduct is shown to be isostructural with its five-coordinate vanadium (IV) analog. The probable structures of the other complexes are also discussed. Detailed electronic spectral measurements are reported for the TiOCl_4^{2-} and TiOCl_5^{3-} anions and the absorption bands assigned to transitions of the type halogen (π)

→ Ti. 20 references.

- L5 ANSWER 46 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1968:118938 CAPLUS
DN 68:118938
TI Coordination complexes of titanium(II)
AU Fowles, Gerald W. A.; Lester, T. E.; Walton, Richard A.
CS Univ. Reading, Reading, UK
SO Journal of the Chemical Society [Section] A: Inorganic, Physical,
Theoretical (1968), (5), 1081-5
CODEN: JCSIAP; ISSN: 0022-4944
DT Journal
LA English
AB $TiCl_2$ (or Na_2TiCl_4) and $TiBr_2$ react with MeCN to yield the nonionic
complexes $(TiX_{2.2}MeCN)_n$ which can be used as intermediates for the preparation
of other complexes of the type $TiX_{2.2}L$ [L = pyridine, tetrahydrofuran,
tetrahydropyran, $1/2(2,2'$ -bipyridine), or $1/2(1,10$ -phenanthroline)]. None
of these products are magnetically dilute (magnetic moment approx. 1.0 Bohr
magneton at room temperature) and they are probably halogen-bridged polymers in
the solid state. Reaction of Na_2TiCl_4 with Me_3N resulted in oxidation of the
halide and the formation of $TiCl_3.2NMe_3$. Similar oxidns. occurred when
pyridine reacted with $TiCl_2$ or $TiBr_2$.
- L5 ANSWER 47 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1968:101367 CAPLUS
DN 68:101367
TI Complexes formed by titanium(III) iodide
AU Fowles, Gerald W. A.; Lester, T. E.; Russ, Brian J.
CS Univ. Reading, Reading, UK
SO Journal of the Chemical Society [Section] A: Inorganic, Physical,
Theoretical (1968), (4), 805-7
CODEN: JCSIAP; ISSN: 0022-4944
DT Journal
LA English
AB TiI_3 has been allowed to react with a range of ligands containing O and N
donor atoms, and the complexes of the following stoichiometry isolated and
characterized: $2TiI_3.3bipy$, $TiI_3.2L$ (L = ethylene glycol dimethyl ether,
 Me_3N , α -picoline, and 1,10-phenanthroline), $TiI_3.3L$ (L = pyridine,
 γ -picoline, tetrahydrofuran, and 1,4-dioxane), and $TiI_3.4MeCN$.
Structures have been assigned to the compds. on the basis of various phys.
measurements, including conds. and ir spectra. The significance of the
electronic spectra are discussed, and Dq for I^- estimated at 500-600 cm^{-1}
with respect to $Ti(III)$. 18 references.
- L5 ANSWER 48 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1967:101224 CAPLUS
DN 66:101224
TI Some reactions of alkoxy and chloroalkoxytitanium(IV) compounds with
tertiary amines
AU Anagnostopoulos, Augoustinos K.
CS Natl. Tech. Univ., Athens, Greece
SO Chimika Chronika (1967), 32(1), 1-4
CODEN: CCRNAQ
DT Journal
LA English
AB The reaction of $TiCl_3OEt$ (I), $TiCl_2(OEt)_2$ (II), and $TiCl(OEt)_3$ (III) with
pyridine and Me_3N was studied. Thus, when I, II, and III and the amine
were mixed in benzene, the complex precipitated as a yellow solid. The obtained
complexes of I or II with the amine showed a stoichiometric ratio 1:2
whereas that of III had a molar ratio 1:1. No adduct was obtained between
 $Ti(OEt)_4$ and the organic ligands.
- L5 ANSWER 49 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1967:16134 CAPLUS
DN 66:16134
TI Complex formation of anhydrous titanium(III) chloride with secondary and
tertiary amines
AU Prasad, Sarju; Devi, K. Shyamala
CS Banaras Hindu Univ., Varanasi, India

SO Journal and Proceedings of the Institution of Chemists (India) (1966), 38(4), 178-80
CODEN: JPICAE; ISSN: 0368-3648

DT Journal

LA English

AB Complex compds. containing 1 mol. $TiCl_3$, 2 mols. of a secondary or tertiary amine, and 1 mol. of EtOAc have been prepared. Anhydrous $TiCl_3$ was prepared by the reduction of $TiCl_4$ with finely divided Al powder at 190° . The black mass of $TiCl_3$ was extracted with anhydrous EtOAc and filtered. Complexes were prepared by addition of the amine solution in EtOAc in small quantities to $TiCl_3$ solution in such a way that $TiCl_3$ was in slight excess. The product was filtered in a dry atmospheric, washed with EtOAc, pressed between filter paper, and then dried in a vacuum desiccator. The compds. are colored and fairly stable. They are insol. in nonpolar organic solvents, soluble in dilute mineral acids, slightly soluble in EtOH, and hydrolyze in H_2O . Some, such as the compds. formed with methylaniline, N-benzylaniline, and tribenzylamine are slightly soluble in Me_2CO . All of the compds. lose weight corresponding to 1 mol. of EtOAc when heated at 100° . On further heating, some of them give a sharp m.p. while others melt with decomposition. The following compds. were prepared which have the probable formula $TiCl_3 \cdot 2A \cdot EtOAc$ (A, color of complex, and m.p. given): dibenzylamine, cream yellow, 160° ; dimethylaniline, light brown, 280° (decomposition); N,N'-diphenylbenzidine, cream yellow, 300° (decomposition); N-benzylaniline, cream yellow, 210° (decomposition); benzalaniline, yellow turning to apple green, 200° (decomposition); ethylaniline, dirty cream, 170° ; tribenzylamine, cream yellow, 130° ; Et_2NH , light brown, 185° (decomposition); $MeNH_2$, dirty green, 200° ; Et_3N , dirty cream, 200° ; diethylaniline, light brown, 240° (decomposition); and Ph_2NH , orange red turning to apple green, 255° .